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| 10/528,024 | 03/16/2005 | Raymond Guyomarc'h | 0501-1130 | 2740 |

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YOUNG & THOMPSON
745 SOUTH 23RD STREET
2ND FLOOR
ARLINGTON, VA 22202

| EXAMINER | |
|---|---|
| RAHIM, AZIM | |

| ART UNIT | PAPER NUMBER |
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| 3744 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/528,024 | GUYOMARC'H, RAYMOND | |
| | Examiner | Art Unit | |
| | Azim Rahim | 3744 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *20 August 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 March 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 1, the recitation, "it further comprises" renders this claim indefinite because it is unclear what the word *it* refers to. For examination purposes, the said limitation will be read as –*the thermal system* further comprises--. Regarding claim 2, in the limitation, "the adjustable flow cocks pass through the tubes, said cocks terminating at said nozzles," it is unclear as to how the tubes are connected to the cocks. For examination purposes, the said limitation will be read as -- the adjustable flow cocks *are connected to* the tubes, said cocks terminating at said nozzles--.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-13 rejected under 35 U.S.C. 102(b) as being anticipated by Arthur et al. (US 5,115,184).

Regarding claim 1 and 13, Arthur et al. teach a system for cooling an inner wall (top of wall 11) of a thermal system comprising a double wall (top wall 11 and bottom wall 39), said inner wall being subjected to temperatures greater than or equal to its physical capacity (col. 1 lines 18-24), said system comprising a network of tubes (tube 71) independent of said thermal system to be cooled (tubes 71 are above furnace roof 10 interconnected with spray nozzles 33; fig. 1), said tubes (71) containing cooling water (col. 3 lines 9-14) circulating under pressure (col. 4 lines 26-29) and being equipped with nozzles (spray heads 34) provided for atomizing the water (capable of atomizing the water) and spraying it in full cones (explicitly shown in fig. 1, wherein spray heads 34 spray in a cone shape) against said inner wall (explicitly shown in fig. 1) and controlled by adjustable-flow cocks (spray nozzles 33, wherein the diameter of the spray nozzles can be adjusted), characterized in that said network of tubes is an integral part of the outer wall of the thermal system to be cooled (explicitly shown in fig. 1) and in that it further comprises means for maintaining the water spraying zone delimited by said respective inner and outer walls under negative pressure (col. 7 lines 11-13 via vacuum; and inherent that cooling the bottom wall would yield a negative pressure based on the decreasing temperature of the delimited area). This system inherently performs the method of cooling an inner wall of a thermal system.

Regarding claim 2, Arthur et al. teach the limitation of the adjustable-flow cocks (spray nozzles 33) being connected to the tubes (explicitly shown in fig. 1), said cocks terminating in said nozzles (explicitly shown in fig. 1).

Regarding claim 3, Arthur et al. teach the limitation of tubes being installed on the inside surface of the outer wall (part of tubing (water supply manifold) extends inside top wall 11; fig. 1).

Regarding claim 4, Authur et al. teach the limitation of the tubes being installed on the outside surface of the outer wall (tubes 71, explicitly shown in fig. 1).

Regarding claim 5, Authur et al. teach the limitation of the cooling water circulating in the network of tubes (71) being stabilized with respect to the mineral content and pH (inherent that the sprayed water pH value is not affected by the contaminant and spraying of the water, and is inherent when water having a stabilized pH is being used).

Regarding claim 6, Arthur et al. teach the limitation of the network of tubes being in a closed circuit (explicitly shown in fig. 1) and the cooling water is regenerated continuously (inherent that the water has to be supplied from a water source).

Regarding claim 7, Authur et al. teach the limitation of the cooling water contained in the network of tubes is at a temperature less than or equal to 60 degrees Celsius (col. 4 lines 14-20).

Regarding claim 8, Authur et al. teach the limitation of the zone in which the water is sprayed is maintained under negative pressure by a system (col. 7 lines 9-12, via pump means) that extracts the steam produced (inherent that the steam evaporates off the bottom wall being cooled and pump means is capable of extracting some steam).

Regarding claim 10, Authur et al. teach the limitation of providing a detecting system composed of contact sensors (thermocouples), which permit continuous monitoring of the wall temperature that is to be regulated (col. 3 lines 66-68, col. 4 lines 1-3, the thermocouples must output temperature information to some sort of system or controller).

Regarding claim 11, Authur et al. teach the limitation of the cocks providing water flow adjustment (col. 4 lines 1-3, where suitable controls adjust the coolant flow).

Regarding claim 12, Authur et al. teach the limitations of the cocks having computer-controlled automatic operation (suitable controls, col. 4 lines 1-3).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Authur et al. as applied to claim 8 above, and further in view of Guyer (US 6,053,418).

Regarding claim 9, Authur et al. teach the limitation of the steam-extracting system being intended to compress said steam (via pump means, col. 7 lines 9-12) and to inject it into a dedicated exchanger unit so that said steam produced then compressed acquires the temperature and pressure suitable for power co-generation (capable of being performed by suitable controls, col. 3 line 66 – col. 4 line 3). Also, the pump means has to have a reservoir where the extracted steam is injected.

Guyer teaches that the concept of the extraction of steam to create power in a power cogeneration system is a well known concept in the art (see abstract lines 1-7).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the cooling system of Authur et al. to include the extraction of steam to facilitate power co-generation as taught by Guyer in order to conserve the energy for powering the cooling system, thus increasing operating efficiency.

***Remarks***

The Applicant states that "an early and favorable first action is earnestly requested." It should be noted that A First Action on the merits was mailed on 8/13/2007. Since there are no arguments to the rejection previously set forth, this action is final and prosecution on the merits is closed.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Azim Rahim whose telephone number is 571-270-1998. The examiner can normally be reached on Monday - Thursday 5:30am - 3pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules can be reached on 571-272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AR 1/17/2008

CHERYL TYLER
SUPERVISORY PATENT EXAMINER